WHAT IS CLAIMED IS:

1. A glass forming alloy having a composition given by:

$(Ni_{1-x}\ TM_x)_a\ ((Ti, Zr)_{1-y}\ ETM_y)_b\ (Al_{1-z}AM_z)_c$,

where a is in the range of from 27 to 58, b in the range of 21 to 59, c is in the range of 5 to 17 in atomic percentages; ETM is an early transition metal selected from the group of Hf, Nb, Ta, V, Cr, Mo, and W; TM is a transition metal selected from the group of Mn, Fe, Co, and Cu; and AM is an additive material selected from the group of Si, Sn, Ge, B, and Sb; and

wherein the following constraints are given for the x, y and z fraction: x is less than 0.3, y is less than 0.3, z is less than 0.3, and the sum of x, y and z is less than about 0.5, and under the further constraint that the content of Ti content is more than 8 atomic percent and Zr content is more than 13 atomic percent.

2. The glass forming alloy described in claim 1 wherein the silicon content of the alloy is less than 1 atomic percent.

3. The glass forming alloy described in claim 1 wherein a is in the range of from 39 to 47, b in the range of 42 to 48, c is in the range of 9 to 11 in atomic percentages and x is less than 0.1, y is less than 0.1, z is less than 0.1, and the sum of x, y and z is less than about 0.2, and the content of Ti content is more than 15 atomic percent and Zr content is more than 27 atomic percent.

4. The glass forming alloy described in claim 1 wherein ETM is an early transition metal selected from the group of Hf and Nb; TM is a transition metal selected from the group of Co and Cu; and AM is an additive material selected from the group of Sn and Si.

5. The glass forming alloy described in claim 3 wherein ETM is an early transition metal selected from the group of Hf and Nb; TM is a transition metal selected from the group of Co and Cu; and AM is an additive material selected from the group of Sn and Si.

6. The glass forming alloy described in claim 1 wherein the alloy has a ΔT_{sc} of more than 40 °C.

7. The glass forming alloy described in claim 1 wherein the alloy has a Vickers hardness greater than 700 Kg/mm^2.

8. The glass forming alloy described in claim 1 wherein the alloy has a yield strength of greater than 2.5 GPa.

9. The glass forming alloy described in claim 1 wherein the alloy has a Young's modulus of greater than 140 GPa.

10. The glass forming alloy described in claim 1 wherein the alloy has a ratio of glass transition temperature to liquidus temperature of around 0.6 or more.

11. The glass forming alloy described in claim 1 wherein the alloy is substantially amorphous.

12. The glass forming alloy described in claim 1 wherein the alloy contains a ductile crystalline phase precipitate.

13. The glass forming alloy described in claim 1 wherein the critical cooling rate is less than about 1,000 °C/sec.

14. The glass forming alloy described in claim 3 wherein the critical cooling rate is less than about 1,000 °C/sec.

15. A glass forming alloy having a composition given by:

$$((Ni, Cu)_{1-x}\, TM_x)_a\, ((Ti, Zr)_{1-y}\, ETM_y)_b\, (Al_{1-z} AM_z)_c\,,$$

where a is in the range of from 27 to 58, b in the range of 21 to 59, c is in the range of 5 to 17 in atomic percentages; ETM is an early transition metal selected from the group of Hf, Nb, Ta, V, Cr, Mo, and W; TM is a transition metal selected from the group of Mn, Fe, and Co; and AM is an additive material selected from the group of Si, Sn, Ge, B, and Sb; and

wherein the following constraints are given for the x, y and z fraction: x is less than 0.3, y is less than 0.3, z is less than 0.3, and the sum of x, y and z is less than about 0.5, and under the further constraint that the content of Ti content is more than 8 atomic percent, Zr content is more than 13 atomic percent and Cu content is less than 17 atomic percent.

16. The glass forming alloy described in claim 15 wherein a is in the range of from 39 to 47, b in the range of 42 to 48, c is in the range of 9 to 11 in atomic percentages; and x is less than 0.1, y is less than 0.1, z is less than 0.1, and the sum of x, y and z is less than about 0.2; and the content of Ti content is more than 15 atomic percent, Zr content is more than 27 atomic percent, and Cu content is from about 3 to 7 atomic percentage.

17. The glass forming alloy described in claim 15 wherein ETM is an early transition metal selected from the group of Hf and Nb; TM is Co; and AM is an additive material selected from the group of Sn and Si.

18. The glass forming alloy described in claim 16 wherein ETM is an early transition metal selected from the group of Hf and Nb; TM is Co; and AM is an additive material selected from the group of Sn and Si.

19. The glass forming alloy described in claim 15 wherein the critical cooling rate is less than about 1,000 °C/sec.

20. The glass forming alloy described in claim 16 wherein the critical cooling rate is less than about 1,000 °C/sec.

21. A glass forming alloy having a composition given by:

$Ni_{100-a-b-c}\ Ti_a\ Zr_b\ Al_c\ Cu_d$, where $8 < a < 22$, $13 < b < 37$, $5 < c < 17$, $0 < d < 17$, and $a+b+c+d$ is in the range of from 53 to 73.

22. A glass forming alloy having a composition given by:

$Ni_{100-a-b-c}\ Ti_a\ Zr_b\ Al_c\ Cu_d$, where $15 < a < 18$, $27 < b < 30$, $9 < c < 11$, $3 < d < 7$, and $a+b+c+d$ is in the range of from 58 to 61.

23. A glass forming alloy having a composition given by:

$Ni_{100-a-b-c}\ Ti_a\ Zr_b\ Al_c$, where $15 < a < 18$, $27 < b < 30$, $9 < c < 11$., and $a+b+c$ is in the range of from 53 to 61.

24. The glass forming alloy described in claims 21 wherein the critical cooling rate is less than about 1,000 °C/sec.

25. The glass forming alloy described in claims 22 wherein the critical cooling rate is less than about 1,000 °C/sec.

26. The glass forming alloy described in claims 23 wherein the critical cooling rate is less than about 1,000 °C/sec.

27. A three dimensional article made from the alloy of claim 1 having an amorphous phase.

28. A three dimensional article made from the alloy of claim 3 having an amorphous phase.

29. A three dimensional article made from the alloy of claim 15 having an amorphous phase.

30. A three dimensional article made from the alloy of claim 21 having an amorphous phase.

31. A three dimensional article made from the alloy of claim 22 having an amorphous phase.

32. A three dimensional article made from the alloy of claim 23 having an amorphous phase.

33. A glass forming alloy having a composition of $Ni_{40}Ti_{16}Zr_{28}Al_{10}Cu_6$.

34. A glass forming alloy having a composition of $Ni_{40}Ti_{17}Zr_{28}Al_{10}Cu_5$.

35. A glass forming alloy having a composition of $Ni_{39.8}Ti_{15.92}Zr_{27.86}Al_{9.95}Cu_{5.97}Si_{0.5}$.